

DRAFT
ENVIRONMENTAL IMPACT STATEMENT
FOR THE PIT 14 COAL LEASE-BY-APPLICATION
SWEETWATER COUNTY, WYOMING

As Applied for by Black Butte Coal Company
(Federal Coal Lease Application WYW160394)

Bureau of Land Management

Rock Springs Field Office

Rock Springs, Wyoming

In Cooperation with

Office of Surface Mining Reclamation and Enforcement
Wyoming Department of Environmental Quality - Land Quality Division
Wyoming State Planning Office

March 2006

EXECUTIVE SUMMARY

On March 24, 2004, Black Butte Coal Company (BBCC), a joint venture between Kiewit Coal Properties, Inc., a wholly-owned subsidiary of Level 3 Communications of Louisville, Colorado, and Bitter Creek Coal Company, a wholly-owned subsidiary of Anadarko Petroleum Corp. of Houston, Texas, filed a Lease-by-Application (LBA) with the Rock Springs Field Office of the Bureau of Land Management (BLM), which would allow them to access federal coal reserves located adjacent to the existing Black Butte Mine in Sweetwater County, Wyoming. The existing mine and LBA tract are located approximately 28 miles southeast of Rock Springs (see **Figures ES-1** and **ES-2**). The application was made pursuant to provisions of the Leasing on Application Regulations found in 43 Code of Federal Regulations (CFR) 3425.1. The tract applied for, known as the Pit 14 amendment area under BLM case number WYW-160394, is hereafter referred to as the LBA tract.

This lease application has been received and reviewed by the BLM, Wyoming State Office, Division of Minerals and Lands, and the application and lands involved were determined to meet all requirements of the regulations governing coal leasing on application Title 43 of the Code of Federal Regulations Part 3425.1 (43 CFR 3425.1).

In order to process an LBA, the BLM must evaluate the quantity, quality, maximum economic recovery, and fair market value of the federal coal involved, and fulfill the requirements of the National Environmental Policy Act (NEPA) by evaluating and disclosing the potential environmental consequences of leasing the federal coal.

To evaluate the environmental impacts of leasing the coal, the BLM must prepare an environmental assessment (EA) or environmental impact statement (EIS) in which it must identify the site-specific and cumulative environmental and socioeconomic impacts of leasing, mining, and developing the federal coal in the application area. The BLM made the decision to prepare an EIS for this lease application.

To allow for an early and open process for determining the scope and significance of issues related to the proposed project (40 CFR 1510.7), a public scoping period was provided by BLM. A Notice of Intent to prepare an EIS was published in the Federal Register on January 4, 2005 (Federal Register 70 v5:1464-1465; WY-920-1320-EL; WYW160394). Publication of this notice in the Federal Register initiated a 30-day scoping period that provided for acceptance of comments through February 4, 2005, and BLM held a public meeting on January 26, 2005. Concurrent with these actions, BLM issued a news release regarding proposed project scoping to local media organizations. Scoping comments were received from 11 individuals and organizations during the scoping period.

Following a 60-day review and comment period, the BLM will use the analysis in the Final EIS to decide whether or not to hold a public, competitive sealed-bid coal lease sale for the federal coal tract, and issue a federal coal lease. The LBA sale process is, by law and regulation, an open, public, competitive, sealed-bid process. Bidding at a potential sale would be open to any qualified bidder; it would not be limited to the applicant. A federal coal lease would be issued to the highest bidder at a lease sale if a federal sale panel determines that the high bid at that sale meets or exceeds the fair market value of the coal (as determined by BLM's economic evaluation), and if the U.S. Department of Justice determines that there are no antitrust violations if a lease is issued to the high bidder. The EIS analysis assumes that BBCC will be the successful applicant for this lease; however, should another entity successfully bid, BLM would be required to analyze any new development proposals as mandated by NEPA.

Cooperating agencies, including the Office of Surface Mining Reclamation and Enforcement (OSM), Wyoming Department of Environmental Quality Land Quality Division (WDEQ/LQD), and Wyoming State Planning Office, will use this analysis to make decisions related to leasing and mining the federal coal within this tract.

Figure ES-1 The Black Butte Mine and Project Area

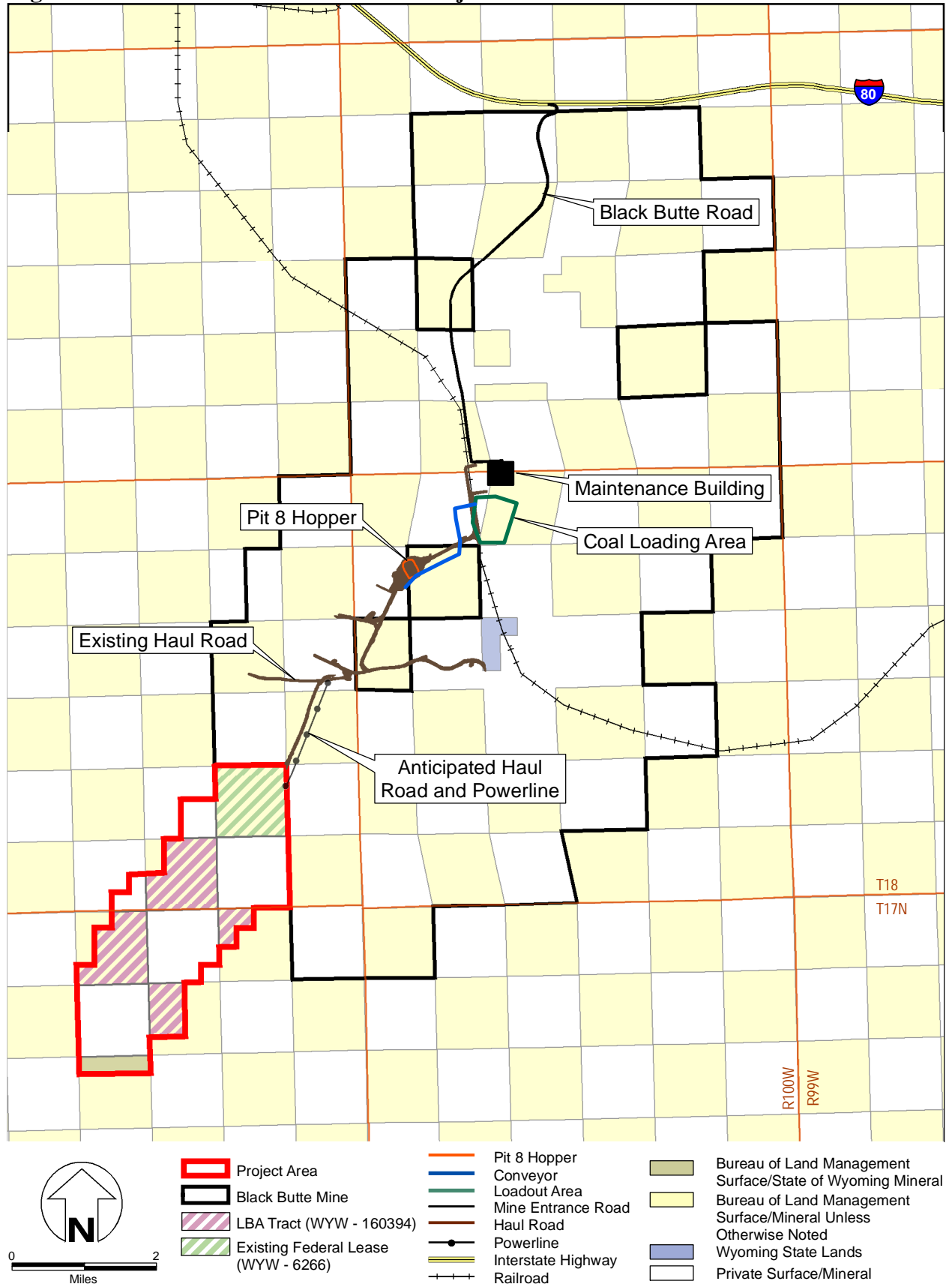
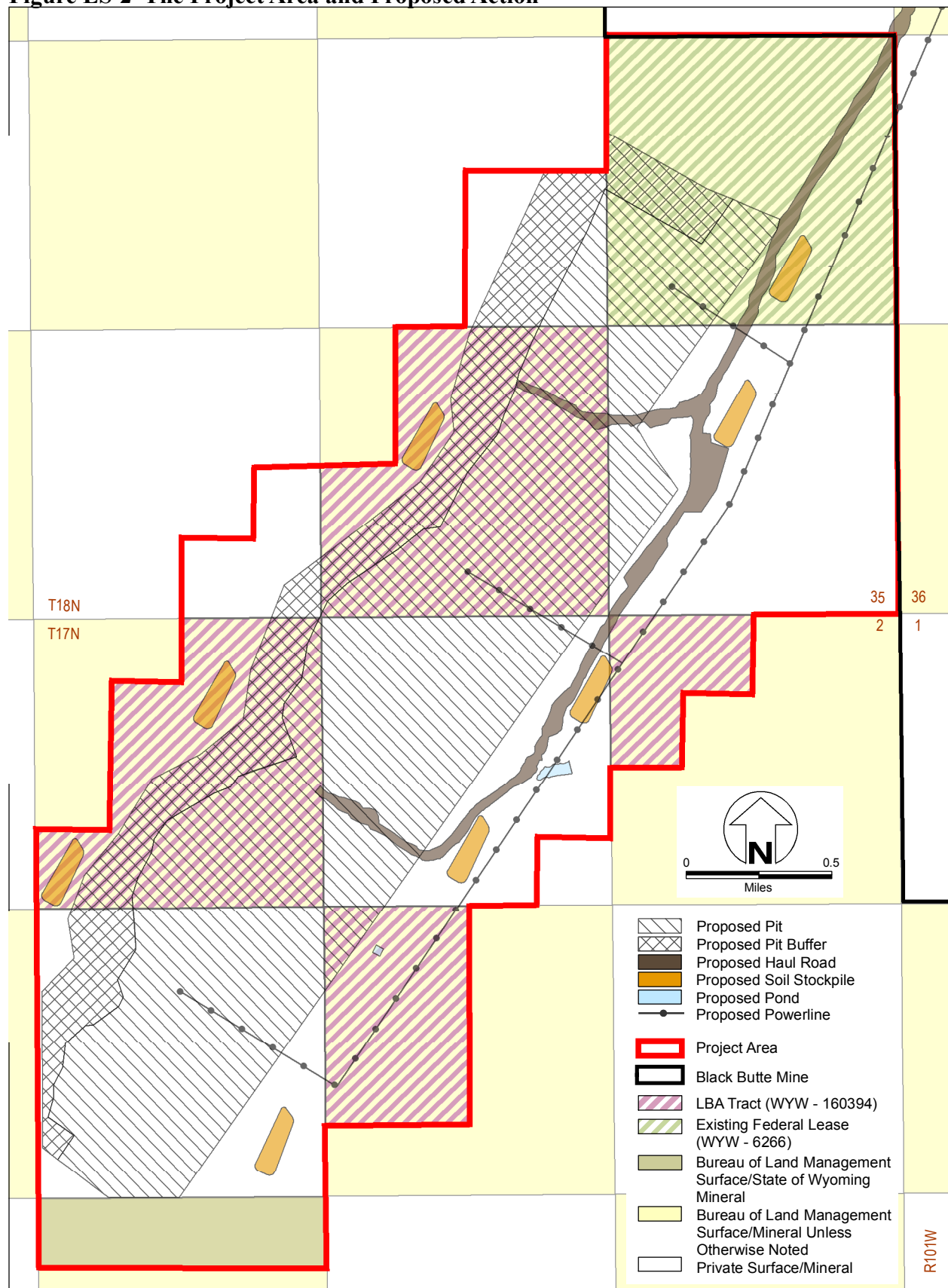


Figure ES-2 The Project Area and Proposed Action



The Proposed Action and No Action Alternative are analyzed in detail in this Draft EIS. Other alternatives were considered but eliminated from detailed analysis. These alternatives are summarized below. **Table ES-1** follows the summarized alternatives, and provides a comparison of coal production, surface disturbance, and mine life for the Proposed Action and No Action Alternative.

Proposed Action (BLM's Preferred Alternative)

The Proposed Action is to hold a competitive lease sale for 1,399 acres of unleased federal coal and issue a lease to extract these federal coal reserves from the LBA tract. Implementation of the Proposed Action would likely result in extraction of previously leased federal coal reserves (WYW-6266), and private coal reserves within the approximately 4,359-acre project area in Sweetwater County, Wyoming (see **Figure ES-2**). Under the Proposed Action, BBCC's current estimates are that the average annual coal production would be 1.5 to three million tons, the life of operations within the LBA tract would be approximately 20 years, and employment would be approximately 171 persons. It is estimated that 34.6 million tons of in-place coal reserves are present within the project area.

No Action Alternative

The proposed action as submitted by BBCC in the Pit 14 Coal LBA would be rejected. Current mining operations may continue as previously approved, BBCC could be required to re-evaluate future mining operations based upon known reserves within the leases currently held.

Alternatives Considered But Eliminated from Detailed Analysis

The BLM reviewed three potential alternatives during the course of alternative development. Based on technical, economic, and/or environmental factors, none of these alternatives were determined to be a reasonable alternative to the Proposed Action. None of these alternatives were carried forward for detailed analysis in this EIS. The rationale for eliminating each alternative from further analysis is discussed below.

1. Accessing Federal Coal Reserves by Underground Mining Methods

An alternative suggested during public scoping identified mining of coal reserves in the project area by use of underground recovery methods. BLM reviewed the technical feasibility aspects and determined that regional geology and anticipated surface cover within the project area would not facilitate this mining method. The coal seams of the Almond Formation underlying the project area are very different from those of the Fort Union Formation currently being mined via underground techniques by the Bridger Coal Company north of the project area. Although some of these seams may be minable using underground methods, there are three primary considerations that preclude underground mining for the proposed lease, and include the following: 1) the main coal seams are highly variable in thickness and tend to split into a number of thin, discontinuous seams that would make underground mining more difficult; 2) in typical underground mining operations with splitting seams, operators must wash the coal (BBCC does not currently have a coal washing operation, nor have they proposed one); and 3) the grade of the seams progresses downward to the east from a western outcrop/subcrop at about a 10 percent slope, and most longwall mining systems used in underground mining require a slope no greater than three to six percent.

2. Non-BBCC Coal Lease

This alternative assumes that the BLM would award the lease to a bidder other than the current applicant. Because there are no adjacent mines that could incorporate the coal reserves into an existing operation, a successful bidder other than BBCC would have to establish a new stand-alone mine and associated facilities and infrastructure. A new stand-alone mine would require considerable initial capital expenses, and would compete for customers with established mining operations, not only in the immediate area (i.e., Bridger Mine, Leucite Hills Mine, and Black Butte Mine), but also in the region

(e.g., P&M Kemmerer Mine). No other companies have expressed an interest to the BLM in coal exploration or development activity in the LBA tract. Furthermore, the size of the LBA tract and the small amount of estimated federal coal reserves within would not be sufficient to make a new, stand-alone mine economically practical. For these reasons, it is unlikely that the LBA tract would attract additional bidders interested in starting a new mine.

3. Postpone Competitive Lease Sales

Under this alternative, the sale of the federal coal reserves within the LBA tract would be postponed more than five years. Postponement would be based on the assumption that coal prices would rise in the future, thus increasing the fair market value of the area resulting in a higher bonus bid when the coal is sold. Unless coal prices are both increased and sustained, it is in the government's best financial interest to lease the coal tract today rather than waiting an unspecified period of time in hopes that the price of coal would increase in the future.

Table ES-1 Comparison of Coal Production, Surface Disturbance, and Mine Life

Item	No Action Alternative (Existing Black Butte Mine)	Added By The Proposed Action
Coal Reserves ¹ (as of 1/1/06)	8.9 million tons	34.6 million tons
Federal Lease Acres ²	14, 902 acres	1,399 acres
Total area to be disturbed ³	14,920 acres	2,250 acres
Permit Area ⁴	38,053 acres	4,359 acres
Average annual post 2005 coal production	2.2 million tons	0 ⁵
Remaining life of mine (as of 1/1/06)	4 years	20 years
Average number of employees	171	0 ⁶
Total projected federal, state, and local revenues from existing coal reserves (as of 1/1/05)	\$30 million to \$76 million	\$160 million to \$300 million
¹ No Action Alternative coal quantities shown are the estimated remaining production quantity. Proposed Action coal quantity represents in-place minable coal. ² Under the Proposed Action, acreage includes the LBA tract only. Under the No Action Alternative acreage does not include state and private coal within the permit area. ³ Includes areas reclaimed at the existing Black Butte Mine and anticipated disturbance over life of mine ⁴ The permit area encompasses all federal, state, and private lands to be mined or otherwise containing ancillary facilities used to support mining activities. ⁵ The amount of production would remain unchanged from current mining. ⁶ No additional employment is expected by Proposed Action.		

The proposed project could potentially affect critical elements of the human environment as listed in the BLM's NEPA Handbook H-1790-1 (USDI-BLM 1988) and subsequent Executive Orders. These critical elements are listed in **Table ES-2**, along with other resource elements discussed in this EIS. For each resource element, an assessment area has been identified in order to analyze potential, project-related impacts on the resource. The assessment area, or impact assessment area, is defined as the outermost boundary of an area that encompasses potential direct, indirect, and cumulative impacts that may affect the resources identified for analysis.

Table ES-2 Critical and Resource Elements Discussed in the Pit 14 Coal LBA DEIS

Element	Status In The Project Area
Critical Elements¹	
Air Quality Issues	Potentially affected
Cultural Resources	Potentially affected
Environmental Justice	Potentially affected
Invasive/Non-Native Species	Potentially affected
Native American Religious Concerns	Potentially affected
Threatened or Endangered Species	Potentially affected
Water Quality Drinking/Ground	Potentially affected
Wetlands/Riparian Zones	None present
Wilderness (study area)	None present
Other Resource Elements	
Geology and Minerals	Potentially affected
Soils	Potentially affected
Surface Water Resources	Potentially affected
Vegetation	Potentially affected
Wildlife and Fisheries	Potentially affected
Wild Horses	Potentially affected
Land Use	Potentially affected
Visual Resources	Potentially affected
Social and Economic Values	Potentially affected
¹ BLM National Environmental Policy Act Handbook H-1790-1 (BLM 1988b) and subsequent Executive Orders.	

Access to the project area is via Interstate 80 and the Black Butte Mine access road (see **Figure ES-1**). The project area encompasses 4,359 acres, of which 1,399 acres are federal surface and mineral estate (the LBA tract, WYW-160394), 640 acres are previously leased federal surface and mineral estate (WYW-6266), 160 acres are state mineral and federal surface estate, and 2,159 acres are private surface and mineral estate.

The project area is located on the eastern limb of the Rock Springs Anticline. The anticline structure has an axis that trends north-south. The anticline is asymmetrical with the eastern limb dipping less steeply than the western (Love and Christiansen 1985). The target coal-bearing geologic formation at the project area is the Cretaceous-aged Almond Formation. Relatively thin deposits of Quaternary alluvium, colluvium, and aeolian sediments overlie the Almond Formation where outcrops are not present. The Almond Formation is also overlain by the Cretaceous-aged Lewis Shale, Fox Hills Sandstone, and the Lance Formation to the east of the project area (Roehler 1979). Tertiary-aged formations overlie these formations further to the east.

Outcrops of the Almond Formation have a bedding dip between three and 10 degrees to the east-southeast in the project area. The Almond Formation thickness averages 325 feet consisting of three distinct units, based on differing lithology. The lower unit is a dark gray shale interbedded with a similarly-colored fine, grained sandstone approximately 100 feet thick. The middle unit is made of 75 feet of dark gray shale and interbedded gray siltstone, gray, fine-grained sandstone, gray and brown carbonaceous shale, and coal. The upper unit is 150 feet of dark-gray shale, light-gray sandstone, and siltstone (BBCC 2004a).

The topography of the project area reflects the interbedded lithologies and is composed of ridges of resistant sandstone separated by swales of less resistant shale and coal. A large, high-angle reverse fault, the Brady Fault, is present five miles east of the project area. With the exception of the Rock Springs Anticline, no substantial structural features are present within the project area.

If the action as proposed was implemented, coal mining operations would increase emissions of air pollutants which may increase concentrations of particulate matter, as well as CO, NO₂, and SO₂. Indirect impacts include emissions from coal combustion (electrical power production).

Geology and minerals would be affected by mining. The topography following reclamation would be gentler and more uniform. Coal, overburden and interburden would be removed; overburden and interburden would be replaced. Replaced interburden and overburden would contain similar lithologies, but dissimilar physical characteristics from pre-mining material. Unsuitable overburden and interburden material would be placed in areas where it would not affect groundwater quality or revegetation success. No loss of the coal bed natural gas is anticipated. Conventional oil, gas, and coal bed natural gas resources could not be developed in active mining areas.

Following reclamation activities, changes in physical soil properties would include increased near-surface bulk density and more uniformity in soil type, thickness, and texture. Changes in chemical soil properties would include more uniform soil nutrient distribution. Changes in biological properties would include a reduction in organic matter and microorganism populations. The existing plant habitat in stockpiled soils would be reduced. The WDEQ permit requirements would reduce the potential for increased erosion and sedimentation.

Runoff events would carry additional sediment loads from disturbed sites, thereby affecting water quality. Potential increases in runoff, wind and water erosion, and sedimentation within the project area are due to disturbances to vegetation and soil resources. In some cases where pre-mining stream channel function is poor, reclamation may improve the erosion and sedimentation characteristics. Surface water depletion from the Colorado River system would occur due to evaporative losses from retention ponds. Groundwater potentiometric surface drawdown would propagate from the area of coal removal. Groundwater in the backfilled aquifer, following mining activities, is predicted to exhibit an increase in total dissolved solids concentrations as backfilled materials are saturated. Over time the groundwater quality of the water in the backfill aquifer would return to near pre-mine conditions. It is expected that the water quality of the backfill aquifer would have the same use classification (Class III, livestock) as the groundwater in the area prior to mining.

During mining, progressive removal of native vegetation would result in increased erosion, loss of wildlife and livestock habitat, and loss of wildlife habitat carrying capacity. After reclamation, vegetation patterns would be changed, vegetation diversity would be decreased, shrub density could be reduced and wildlife carrying capacity would potentially be reduced. During mining, wildlife would be displaced, and habitat would be lost in active mining areas. Wildlife movement through the project area would be restricted and shifts in habitat utilization would occur during the life-of-operations. Nesting and foraging habitat for all species would be lost. Suitable habitat for sagebrush-obligate species would be disturbed. Mine related traffic could increase wildlife mortality (where animals are not currently conditioned to remain off utilized roadways). After reclamation, big game habitat carrying capacity on reclaimed lands would be restored, but habitat diversity may decrease. Wildlife use may diminish available forage on reclaimed area and hinder reclamation success.

Direct impacts on breeding raptors could include temporary or permanent displacement, nest abandonment from construction or operations noise and activity; loss of brood (i.e., egg or young); destruction or alteration of nesting or roosting habitat; and/or destruction or alteration of foraging habitat or resources. However, because raptor protection and mitigation measures are built into the Proposed Action, it is unlikely that breeding raptors would incur impacts from implementation of the Proposed Action. Indirect impacts on raptors could include a decrease in available prey, such as small mammals that rely upon sagebrush habitats, and subsequent displacement, nest abandonment, or otherwise failed breeding attempts.

Impacts on BLM-sensitive species could include direct loss of habitat, temporary or permanent displacement, and restriction of movement (caused by mine pit, haul roads, etc). However, to the extent

that suitable, unoccupied habitat is available adjacent to the project area, populations would remain relatively unaffected. If suitable, occupied habitat is available nearby, individuals would likely still be able to utilize the cover and forage resources therein, but could suffer from the effects of competition if the areas became congested by overuse from displaced species. Loss of forage would displace wild horses to nearby suitable habitat. Because necessary resources for wild horses exist throughout the entire HMA, the loss of these acres would not likely impact wild horse populations.

Land use would change in that public access would be eliminated during the life-of-operations (active mining) to ensure public safety, and restricted during post-mine reclamation to assist the establishment of suitable vegetation.

There are no environmental justice populations directly affected by the proposed project.

Livestock grazing use in active mining areas would be restricted during the life of the mine and until adequate reclamation is achieved.

Oil and gas production and transportation facilities would be restricted from development within active mine areas. Hunting and other recreational activity access would be restricted during mining.

Transportation in and around the project area would be altered in that there would be a loss of usable two-track routes within project area boundaries. Railroads would be used to ship coal; employees would travel to and from work on existing roads.

Alterations to line, form, character, and texture would occur, thereby changing the visual resources of the project and surrounding area. Mining in the project area would not be visible from any major travel routes. Portions of the Black Butte Mine area and ancillary facilities proposed for use by this project would be highly visible from Interstate 80 and routes within the project area. As the land is reclaimed, the surface disturbance from mining would be recontoured with re-creations of existing landforms occurring where practical. Revegetation of land surfaces would buffer visual impact. However, until vegetation has matured, the lack of sagebrush would differentiate disturbed areas apart from undisturbed areas. When revegetation maturation is complete it would be difficult to distinguish disturbed areas from undisturbed areas.

Historic and prehistoric sites and isolated artifacts would be disturbed. All sites that meet the eligibility requirements for the NRHP, through the Section 106 (of the National Historic Preservation Act) process that was completed in May of 2005, would be avoided or mitigated through data recovery. Potential for vandalism and unauthorized collection would increase.

Federal, state and local governments would receive revenues from royalties and taxes. Sweetwater County would benefit from economic development, stable employment, and taxes.

Under the No Action Alternative, the coal lease application would be rejected; the area contained in the application would not be offered for sale at this time. The tract could be nominated for lease again in the future. The impacts described in the preceding paragraphs on air quality, geology and minerals, soils, water resources, vegetation (including invasive species), wildlife and fisheries (including special status species), wild horses, land use, grazing, recreation, transportation, visual resources, cultural resources (including Native American concerns), and socioeconomics would occur on the existing BBCC leases. These impacts would not be extended onto the LBA tract.

If impacts are identified during the leasing process that are not mitigated by existing required mitigation measures, the BLM can include additional mitigation measures (in the form of stipulations on the new lease) within the limits of its regulatory authority.

Cumulative impacts result from the incremental impacts of an action added to other past, present, and reasonably foreseeable future actions, regardless of who is responsible for such actions. **Table ES-3**

identifies projects with similar surface disturbing impacts on that of the Proposed Action that may be included in a resource's cumulative impact assessment area.

Table ES-3 Reasonably Foreseeable Future Actions

Project Name	Type Of Disturbance	Acres Disturbed
Monell Enhanced Oil Recovery Project	126 wells	630 Acres
Creston/Blue Gap II Natural Gas Development Project ¹	1,000 well pads containing 1,250 wells	5,000 Acres
Oil Shale Research, Development, and Demonstration Program Lease (Anadarko Petroleum Corporation) ²	160 Acres for research, development, and demonstration, 4889 Acres for Preference Right Lease	5,049 Acres within proposed leases
Hiawatha Regional Energy Project ³	4,100 wells (2,600 wells in RSFO)	13,200 acres (does not account for the existing infrastructure)
Black Butte Mine ⁴	Mine pits and roads	4,363 Acres
Bridger Coal Mine ⁴	Mine pits and roads	48 Acres
¹ Project is within Rawlins Field Office but portions of the project boundary overlap certain resource values. ² BLM officials determined the application was incomplete, and will not be given further consideration. This finding became known after preparation of this document. Although the disturbance associated with the action has been factored into disturbance calculations it is no longer considered a reasonable foreseeable action. ³ Proposal extends into Colorado; approximately 2/3 of the wells proposed would affect IAAs in the RSFO. ⁴ Approved under the existing mine permit but not yet constructed or developed.		

Each resource analyzed has its own unique cumulative impact assessment area, with the exception of a few resources that share a common assessment area. Accordingly, cumulative surface disturbance acreages vary by resource.

Far field visibility and atmospheric deposition would cause impacts on the air quality of the Bridger Wilderness Area, and terrestrial ecosystems.

Cumulative impact on geology and minerals would include the removal of coal from the area, and no future use of that coal. Conventional oil and gas development and coal bed natural gas would be postponed.

Changes to physical, chemical, and biological soil properties in the disturbed areas would accumulate, and potential would exist for increased erosion and sedimentation in the assessment area prior to reclamation.

Storm water and snowmelt events that would occur within the project area, in combination with other disturbances in the assessment area with surface water retention systems, would result in decreased contributions to stream flow. Drawdown of the potentiometric water surface in water bearing units would also occur.

Progressive removal of native vegetation would result in increased erosion, loss of wildlife and livestock habitat, and loss of wildlife habitat carrying capacity. After reclamation, vegetation patterns would be changed, vegetation diversity would be decreased, shrub density could be reduced, and wildlife carrying capacity would potentially be reduced.

Wildlife would be displaced from, and habitat would be lost in, surface disturbed areas. Wildlife movement could be restricted. Impacts on special status species could include permanent displacement, and restriction of movement. This might include loss of habitat and potential for establishment.

Loss of forage would displace wild horses to nearby suitable habitat.

Other land uses in disturbed areas would be precluded for the mine life and restricted during final reclamation. Grazing, oil and gas production, and transportation facilities would be prohibited and restricted from active mine areas. Hunting and other recreational activity access would be restricted for the mine life.

Alterations to line, form, character, and texture would affect visual resources. Revegetation of land surfaces would buffer visual impacts. However, until vegetation has matured, the lack of sagebrush would differentiate disturbed areas apart from undisturbed areas.

Loss of information about cultural heritage within the analysis area could occur if these sites are not identified and inventoried prior to disturbance. Any loss or damage to unidentified cultural or historical sites or resources associated with the assessment area could be substantial.

The tax base to the county, state, and federal governments would increase. Employment opportunities and the population of Sweetwater County would increase. Property values, the need for more schools, medical facilities, and other community services would also increase.

This Draft EIS presents the BLM's analysis of environmental impacts under the authority of NEPA and associated rules and guidelines. The BLM will use this analysis to make a leasing sale decision. The decision to lease these lands is a necessary requisite for mining, but is not in and of itself the enabling action that will allow mining. Additional analysis prior to mine development would occur after the lease is issued, when the lessee files an application for a surface mining permit and mining plan approval, supported by extensive proposed mining and reclamation plans, to the WDEQ/LQD.